COOP'S TECHNOLOGY DIGEST

-A Timely Report On The World Of Communications-

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NOW - OUR FIFTH YEAR OF SERVICE

COOP'S TECHNOLOGY DIGEST

July 1, 1998 ◆ VOLUME 98-06-49

Beware the Cunning Fox

When British Satellite Broadcasting (BSB) and Rupert Murdoch's Sky Broadcasting merged in November 1990, BSkyB (the survivor) had an accumulated loss of more than $US2 billion. (**1**) Accumulating tax losses through corporate acquisition has been a favourite tool of financial raiders for decades and the loss carry forward of Australis/Galaxy and the 29 separate corporate entities they operated was an attractive plum laying on the Australian table during May and early June. The loss, variously reported between $A600m and $A1.1B, attracted a diverse collection of would be corporate raiders. Few, however, realised that the real asset was not the complex and perhaps unusable tax loss carry forward but rather it was the 55,000 digital decoders residing in as many homes throughout the Australian city and country side.

On June 2, the financial managers for the court ruled bankrupt Australis and agents for Foxtel came to an agreement. Foxtel would acquire 65,000 Pace model DGT-400 IRD (integrated receiver decoders) from the smoking ruins of Galaxy. Ten thousand of these IRDs were alleged to be safely stored in an Australis/Galaxy facility, the remainder scattered at nearly 55,000 separate locations primarily throughout South Australia, New South Wales and Queensland. With the 65,000 IRDs, Foxtel also purchased 55,000 satellite dishes, LNBFs, sets of cable and indirectly, the labour that had been required to install the home dish systems. The price has not been verified but CTD believes it to be between A$150 and A$160 per IRD.

The Pace DGT-400 IRD is yesterday's technology but hardly second rate. It had allowed Galaxy to operate a pay-TV system throughout Australia, and at one point to serve as many as 110,000 subscribers. (**2**) The IRD uses using the world-standard Irdeto conditional access (CA) system which simply means each IRD can be told, through the satellite feed, which programme channels are authorised for each location. In this way the pay-TV operator can "mix and match" services offering different levels or tiers of pay programming. The very same technology is in use at Multi-Choice in South Africa (utilising the same IRD), in Greece and elsewhere in the pay-TV world. It is not the latest technology, but there will never be a "latest" technology because between the time of ordering a particular level of hardware and its delivery, a new generation with new features is currently being born. With the frequency of new developments, the "latest" is always at least one full generation behind the current level of "demonstration" technology.

Foxtel's acquisition of 65,000 Pace DGT-400 IRDs was step one in a plan to increase the Foxtel reach. The Australian cable firm had been kept out of the satellite delivery arena by a combination of Australian regulations and programmer contract restrictions (limiting many programme distribution rights only to cable TV delivery). When chief competitor Optus Vision made moves to create its own satellite delivery platform between March and May, Foxtel shifted gears.

By purchasing 65,000 IRDs, of which 55,000 are reported to be installed in former Galaxy subscriber homes, Foxtel was really acquiring a subscriber base for DTH delivery. If it paid as reported under A$160 per IRD, Foxtel got a bargain. The street price for the IRDs currently averages $US330 per unit. Foxtel got more than IRDs - they also acquired the satellite dish, LNBF, cable, and the labour and small parts required to have 55,000 of the IRDs installed and functional at homes.

1/ The US$2B loss carried forward has meant that BSkyB will not be paying an corporate income tax until at least the end of the current financial year (June 30, 1998).

2/ Irdeto and the same Pace DGT-400 IRD was also shared with regional pay-TV broadcaster Austar which claims 210,000 subscribers.

Galaxy as recently as March was costing out this very package for just over A$1,100 (a complete home dish system, installed at a subscriber location). In effect, Foxtel fell into the satellite delivery business for 14 cents on the dollar and jump-started itself with 55,000 subscribers.

There were other problems to be solved. Owning 55,000 installed IRD systems did not answer the question of how those subscribers would be served with programming. The most obvious choice was to relight the twin ex-Galaxy transponders which were abandoned May 21 (CTD May 27, p. 21). The two transponders at the peak of their activity delivered 21 programme channels (plus a test channel); 11 per transponder. As reported in SatFACTS for June 15th, it was a combination of technical challenge and legal unknowns which allowed Galaxy's 55,000 subscribers to continue to be served after May 21st through an emergency feed established by Austar. (**3**) Galaxy subscribers fell into three groups:

1) Those previously served through terrestrial MDS (microwave). There are approximately 20,000 in this group and their pay-TV service simply stopped May 21st.

2) Those previously served by Galaxy-satellite, who happened to have their systems operating during the countdown to May 21st and as a result found themselves following on screen instructions intended for Austar subscribers. And still watching pay television (courtesy of an unwitting Austar).

3) And, those who for whatever reason did not make the switch to Austar and found their screens dark, and trekking a muddled trail of getting back to pay-TV.

Much of the trail pre, during and post May 21st was recorded through Internet user groups and bulletin boards established as a result of Galaxy's financial failure. In monitoring the Internet postings, it becomes clear virtually all of the ex-Galaxy subscribers would welcome the opportunity to regain pay-TV and pay for it. This despite the fact that from May 21st to date, those who were caught up in the Austar transition have enjoyed pay-TV without paying for it. On June 3, Foxtel's Tom Mockridge (CEO) dispatched a letter to the 55,000 ex-Galaxy subscribers advising they had a plan to restart the service. What Foxtel did not clarify is how they would deliver "*continued access to the temporary satellite programming you are now receiving.*"

On June 4th an outside broadcast van equipped with a satellite uplink transmitter parked at the Foxtel cable facility was connected to the cable company's control room and an uplink signal transmitted. But not to the ex-Galaxy transponders on Optus B3.

Implementing a tentative plan approved in April, Foxtel sent as many as six of their cable programme channels (Showtime, Encore, TV1, UK TV, World Movies, and a switched variety of others) to PanAmSat PAS-2. The Ku band signal through PAS-2 was then carefully measured at sites throughout Australia over the next six days. Some of the reports were pleasant (*"up to 4 dB stronger than anticipated in Queensland"*) and most reports found the PAS-2 service suitable to directly serve the 55,000 ex-Galaxy subscribers.

Foxtel testing on PAS-2 did not go unnoticed at Optus. It had been Optus that was pushing through the media for formation of a "Content Company" to allow all of the primary pay-TV participants in Australia to "share" a group of transponders on Optus B3. The plan was quite straight forward; where there is commonalty of programming services (such as TNT/Cartoons, Country Music Television, World Movies et al) that appear on two or three separate services, let these programme services be shared on one transponder. Why should Austar, Optus Vision and Foxtel each separately transmit the same TNT/Cartoon Channel - each occupying valuable and costly satellite transponder spectrum space - when the service could be transmitted on a single transponder and shared? Optus suggested

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3/ Austar, pre-May 21st, relied upon the Galaxy transmission format including Irdeto to reach its 210,000 subscribers. Austar subscribers would have lost their service along with Galaxy subscribers except Austar moved to back up the Galaxy satellite feed with its own transponder. As Galaxy and Austar shared not only the programming feeds but the Irdeto conditional access platform, in shifting the Austar subscribers to their new transponder facility, a side effect was Galaxy subscribers were dragged along as well. Because of this, since May 21st ex-Galaxy subscribers have continued to receive programming (courtesy of Austar) although they have not been (and will not be) invoiced for this service. How the programme sources (such as Discovery Channel) feel about having up to 55,000 homes watching their service without paying is unknown.

that rather than spreading out over 5 or 6 or 7 separate transponders, duplicating the same programming in many cases, Austar + Foxtel + Optus Vision could get by with perhaps 4 transponders.

There was more to the "Content Company" than mere transponder space savings. Optus was urging Foxtel to make available some (or all) of its programming to Optus and Austar. In return, Optus would reciprocate allowing its programming to be offered to Foxtel subscribers. At the end of this proposal many saw complete rationalisation of the Australian pay-TV world ultimately ending with only a single content provider and a single delivery system.

Foxtel was not interested. It planned to whip Optus Vision in the marketplace and saw no business reason to transfer exclusive Foxtel programming to Optus when to do so would surely prolong what Foxtel envisions as the eventual death of Optus Vision. When Foxtel came calling on Optus (the satellite company) May 22nd to lease transponder space to serve the ex-Galaxy subscribers, Optus again tried to play its "Content Company" hand on behalf of its subsidiary Optus Vision. What Optus may not have appreciated at the time was the advanced state of Foxtel's plan to only utilise the ex-Galaxy B3 transponder space for a limited period of time. (**4**)

Galaxy's court appointed financial receivers solicited bids on the dismembered parts that made up Galaxy. Optus showed interest in the 55,000 customers but not their receiving equipment. Optus offered a "nine month management period" during which they would provide service to the ex-Galaxy subscribers, collect a fee, and then at the end make a decision about continuing to serve the DTH viewers. The financial receivers turned down the offer and Optus allowed the issue of the subscribers to hang in limbo. Optus wanted the nine months to re-equip the 55,000 homes with current generation IRDs, capable of doing more than merely receiving pay-TV. (**5**)

While Optus pondered a next move, Foxtel acted. Their bid, reported near $A160 per IRD, was an attempt to acquire equipment in a smoke screen that gave them ownership of what they really wanted; 55,000 new subscribers for Foxtel, and possible crippling of an Optus ability to launch their own DTH service. In a business world where similar operating systems "sell subscribers" in the range of $US2,500 (per subscriber), the Foxtel purchase of 55,000 ex-Galaxy subscribers for approximately $A160 is indeed a bargain. Many consider Optus's failure to move quickly and decisively to pickup the ex-Galaxy subscribers a major mistake.

So while Optus fiddled and ex-Galaxy customers twisted in the breeze, Foxtel lit up PAS-2 with a test service. The speed with which Foxtel appeared on a satellite competitive to Optus surprised many. It also drove home the point that under a deregulated Australian telecommunications regime (since July 1997), virtually anything that is technically possible is doable. And while Foxtel tested and collected field reports of service levels, the talks between Optus, Foxtel and sometimes Austar continued.

Optus found Foxtel adamant about not sharing programming. Further, they soon saw that Foxtel was deadly serious about creating its own DTH pay-TV service. By the 20th of June the game plan was apparent and seemingly well underway. *On June 20th, the plan was*:

1) Foxtel would refire up the abandoned Galaxy transponders (12.376, 12.438 GHz - horizontal on satellite B3) and transfer back the ex-Galaxy DTH subscribers who have for more than a month been watching Austar programming gratis. The target date was July 1.

4/ Another reason for not sharing common programme channels - each service uses "breaks" within programming schedules to promote other channels and announce scheduling additions. Common programme channels would not be able to promote individual services nor individually sell advertising within a channel.

5/ Optus has arranged for South African firm UEC, and British (Wales) headquartered Matsushita to provide IRDs capable of pay-TV plus Internet delivery and banking transactions to be used in its Aurora platform. Additionally, Pace Micro Technology (also providing the IRD for Sky Network NZ) and Taiwan's Sun Moon Star have been invited to submit receivers for the Optus Vision pay-TV project. All are two to three generations newer in design and performance than the ex-Galaxy Pace DGT-400 IRDs. Optus hoped to acquire the ex-Galaxy subscriber base but not be saddled with the technology of the older IRDs, which Optus told the press, "*is old, several generations behind our current technology, and not of interest to us.*"

2) Those ex-Galaxy subscribers who had responded to Foxtel queries would continue to have service, and pay for it from July 1st onward. Those who did not respond would have their pay-TV shut off.

3) Foxtel sources say use of the ex-Galaxy transponders is "interim" and the service being offered using these transponders will be very similar to that previously available from Galaxy, at the same pricing. The exception: No foreign language channels initially (there were Italian and Chinese services available from Galaxy).

4) Foxtel has announced plans to move the service to "a new satellite" (PanAmSat PAS-8 is the logical choice but PAS-2 [Ku] remains a possibility as well) when the satellite is launched and available (current launch date is October 1, likely use date for Foxtel mid to late December). At that time Foxtel DTH will expand to include "*all of the cable service channels presently available*."

The move to PAS-8 will come with a price-tag. Foxtel presently plans to accept no new subscribers to its "interim B3 service" until such time as the PAS-8 service is functioning. At that time, they will dual feed on B3 and PAS-8 while a small army of installation people physically repoint the estimated 55,000 dishes receiving B3 to the new satellite; a move of 10 degrees. **(6)**

Foxtel's plan to offer the same complete programming line-up on satellite as it offers on cable is the most dramatic aspect of the announcement. Galaxy's original programming, Austar's present satellite package, and Optus Vision satellite testing have all been confined to two or fewer transponders with a maximum programmer capacity of 22 services. Foxtel as of mid-June 1998 offers cable subscribers 36 channels of service including five terrestrial (FTA) channels. A similar number of Foxtel DTH channels will require 4 transponders on PAS-8. This helps us understand why Foxtel was not really interested in Optus B3 transponder space; there is simply not enough of it available to accommodate the ambitious channel expansion plans of Foxtel DTH. It is likely Optus never understood the extent of the Foxtel channel expansion until after negotiations between the two failed.

There are some interesting possible side effects with the PAS-8 choice. Although the short-term testing on PAS-2 gave Foxtel engineers the confidence they required to advise management PanAmSat would "do the job," there was never much chance that Foxtel would permanently utilise PAS-2. The strongest available PAS-2 Ku service signal is 46 dBw; the equivalent of a 1m range dish in best-served areas. The pre-existing ex-Galaxy dishes are typically 65cm which means they are too small for reliable service. The new PAS-8 bird, on the other hand, will provide 49.5 dBw service which provides a "safety margin" for the existing ex-Galaxy dishes. There will be some dish changeouts required - probably several thousand overall, since the Optus B3 footprints do not mirror precisely the PAS-8 predicted footprints. **(7)**

During testing on PAS-2, there were a number of very surprised non-Australians who "found" the tests coming through loud and clear from the southern tip of South Island (NZ) northward to Papua New Guinea. In fact, reports to SatFACTS tell of 45cm dishes producing quality reception on South

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6/ In a reverse move, users of the twice weekly Herbalife marketing channel which has been transmitted on PAS-2, Ku for more than 12 months, were required to move their dishes to Optus B1 the week of June 15th following a decision by the firm to transfer away from PAS-2. The transfer cost each site $A125 and on average required more than an hour of installer effort. It is unlikely the transfer from B3 to PAS-8 will require less than an hour's time per installation, although probably at a lower cost. With 55,000 antennas to repoint, and 8 dishes per day / 40 per week per installer, the effort will require 1,375 "man weeks" to complete.

7/ There is an element of uncertainty concerning dish size versus footprint (signal) levels that will continue until PAS-8 is actually launched, operational and testing has been completed. Foxtel is gambling here that PAS-8 will launch successfully and do everything the planners say it will do.

8/ An interesting reversal of the period 1995 - 1998 when Indovision pay-TV services sold well in northern Australia while HBO, ESPN, Discovery and TNT/Cartoons were available through an Indonesian satellite. The Indonesia/SE Asia PAS-8 coverage is the "fly in the ointment" affecting a decision betwen PAS-2 and PAS-8. PanAmSat could expect increased revenue from a firm using PAS-8 Ku to serve the hundreds of millions of potential users in Indonesia/SE Asia - more income than an Australian DTH service will create.

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Island. All of this will go away (not be available) when PAS-8 goes into operation simply because the new satellite's footprint is carefully sculptured to cover Australia with a stronger signal to the loss of coverage into New Zealand and the balance of the Pacific. There is one region outside of Australia that is predicted to receive about as much signal from PAS-8 as from PAS-2; Papua New Guinea where 3m range commercial dishes for SMATV (and cable) should provide quality reception. Similarly, portions of southern and eastern Indonesia will also be within the commercial-dish size range of the Foxtel PAS-8 service. (**8**)

The Internet Dairy

From early May when it became apparent Australis/Galaxy was to fail and our press deadline, numerous Internet sites headquartered in Australia have provided a forum for those affected by the shutting down of Galaxy service to exchange views on the events transpiring on a daily basis. Internet discussion group "monitoring" has become a high tech way for firms such as Foxtel and Optus to keep their finger on the pulse of consumer response; an instant feedback process. Several thousand printed pages have been collected by CTD during our own monitoring of these discussion groups and we share here some of the more significant comments noted.

(**May 21**) "*The 60,000 plus subscribers to Australis Media's pay TV service* Galaxy were due to have their signals switched off at midnight last night after the company's receivers failed to strike a deal to sell its key satellite service to Optus Communications. Australis's receivers, Mr. Peter Walker and Mr. Steve Sherman, issued a statement last night saying negotiations to sell the company's key operating segments had failed to come to a satisfactory conclusion. Australis's disappearance from the Australian pay TV scene leaves the door open for rival Foxtel, the joint venture between Mr Rupert Murdoch's News Corp and Telstra, to become the dominant satellite distributor of pay TV services."

(**May 21**) "I attempted to ring Galaxy this morning to get some better answers than what was reported in the morning papers. But it was all bad news. 1) All subscription payments made after May 5th (the date the receivers were appointed) would be refunded; 2) All direct debit arrangements would cease; 3) Subscribers would be contacted to arrange for the return of the Galaxy equipment. *R.I.P.* ... Galaxy."

(**May 21**) "*Subscribers to the Galaxy pay-TV service* are still seeing some programmes even as liquidators today continue their efforts to wind up the parent company, Australis Media. A separate deal concluded this morning is the first step towards industry rationalisation. The last 24 hours is indicative of the confusing and complex strategies now at play as the pay-TV industry finally turns on itself."

(**May 21**) "If Foxtel and Optus had gone to market correctly (i.e., to make a profit), then all parties would still be operating. It is evident that both soon after they began to roll out cable discovered the costs associated with cable were far too high and the only way they could grow their transmission system was to go to satellite. But government blocked their getting onto satellite leaving them with the option of merging (which was blocked for both Foxtel and Optus) or dispose of the satellite license holder (Australis). As Foxtel and Optus both held far greater financial reserves than Australis, it wasn't a difficult task. They would operate their businesses at a loss until Australis ran out of money and financial backing. What is most disappointing is that this was allowed to happen by the ACCC and Government. Australia has tariffs in place to counter unfair trading from multinational overseas companies. Yet there is no protection for the smaller companies faced with the dollar strength of corporate bullies in our own back yard."

(**May 22**) "*I live 16 km from the capital city of Perth* in Western Australia and I have subscribed to the Galaxy TV service for the last 3 years. This has been a valuable resource of information, news, entertainment and if used wisely, education for my family. It is the only pay-TV service in West Australia apart from Foxtel which with cable TV covers only a handful of suburbs. Now as a result of poor planning by the previous Labour Government and gross interference by Professor Fels and the ACCC, the majority of West Australians are facing the prospect of having no access to pay-TV services. I think it is high time the Government steps in to remove these bureaucratic impediments to companies wishing to trade and to assist them in rolling out their services to the entire population. By allowing situations to develop where some communities have access to

high technology services while others right next door are denied such access, Government is fostering the creation of technological ghettos."

(**May 22**) "Austar and Optus Communications said they had formed a satellite joint venture that would see the two groups share costs on buying and operating satellite facilities. Both parties, though, are expected to be met head-on by rival Foxtel which is thought to be planning its own satellite pay-TV venture. The ex-Australis subscribers have been lucky enough to pick up programming through Austar from almost immediately after the Galaxy service was terminated. It is understood the Austar programming found its way to Galaxy subscriber homes by mistake. Previously, Austar was restricted to delivering satellite programming to regional areas and locked out of the capital cities. But when Australis collapsed the bar on urban areas was lifted, enabling Austar to deliver programming to the cities. This is understood to be temporary. Unlike the ex-Galaxy satellite subscribers who are receiving Austar programming, the estimated 25,000 microwave pay-TV customers were left on Wednesday night with virtually blank screens except for a few channels that continued to transmit."

(**May 23**) "*Foxtel and Optus Communications have emerged* as the two dominant distributors with access to substantially expanded audiences. Regional player, Austar Entertainment, has now been freed up to purchase programming from both Optus and Foxtel. Optus says, '*Our agreement with Austar is one of the industry's most significant non-exclusive programming agreements to date and as such is a major step forward in the rationalisation of Australia's pay-TV industry*.' Austar also confirmed yesterday it had forged a 50/50 satellite distribution joint venture with Optus which owns the B3 satellite, Australia's only satellite capable of transmitting signal to 250,000 consumers who get pay-TV via satellite. The (same) venture yesterday reached agreement with Australis's receivers to buy some of the Australis satellite assets, namely the conditional access platform. It is understood the venture paid less than $5 million for this asset."

(**May 22**) "Optus is believed to have also bid for the right to manage Australis's existing 70,000 subscribers, offering an amount far below that sought by the receivers."

(**May 22**) "Foxtel has confirmed it is pursuing a satellite strategy."

(**May 22**) "*Because Galaxy is not working*, all of its subscribers who receive their pay-TV via satellite (about 55,000) can now receive Austar pay-TV. It is unclear when Austar will be able to switch them off. If the Optus/Austar venture wins, it would be the only satellite delivery system in Australia and, unless alternatives are found, all other pay-TV companies that want to deliver via satellite would have to negotiate with the two joint-venture partners."

(**May 22**) "Both parties, though, are expected to be met head-on by rival Foxtel which is thought to be planning its own satellite pay-TV venture. There have been suggestions Foxtel has established its own satellite service already but the company has denied its plans are that far advanced."

(**May 23**) "*I think it sucks*. Have you noticed that Mr Alan Fels is very quiet at the moment. When he opens his mouth, I reckon 70,000 Galaxy subscribers will jump down his throat!"

(**May 23**) "The satellite system Galaxy/Austar is now set up for Austar to hijack all of Galaxy's subscribers by the simple system that if a Galaxy subscriber tunes to channel 22, they are immediately shifted by the data stream to Austar service. Moreover, there is no way for the common person to return to the previous Galaxy transponders without some professional help. Pretty damned clever, I would say!"

(**May 23**) "*Actually, that is not quite true*. This system was to keep Austar subscribers with a signal. Us poor Galaxy subscribers will probably have nothing in a few days when Austar becomes encrypted and all of our smart cards will not be compatible with the new signal. Which will leave Galaxy subscribers with nothing. I rang Foxtel and they told me that a satellite service is in the planning stage but it would likely be two months before it was operating. I guess I will be forced to go back to commercial laden free to air signals."

(**May 23**) "Can anyone tell me how to get back to Austar after trying Optus? It is bad enough to lose Galaxy but to lose access to Austar is devastating. It serves me right for trying the Optus receiver settings I found here in the discussion group."

(**May 23**) "*I live in an area where pay-TV will only be available by satellite*. I do not understand why government feels they can dictate who the provider of this service will be. At present, I live where Austar serves but just 5 km up the road, it was Galaxy 'territory'. Now there are whispers

that Foxtel or Optus will be available on satellite. Why shouldn't subscribers be free to choose from all of the service providers as we see fit? It is our money and we should be able to select the programming package that most satisfies our needs without government telling us which one we MUST deal with."

(May 23) "Foxtel will go to satellite - you an be certain of that. If we are treated with contempt by other carriers, we all know who will be wanting our subscriptions soon. And that will only make Foxtel bigger which is certainly something that Optus has to be concerned about. Austar would do itself a service by leaving the signal on for those of us able to receive it. I for one will wait for the mess to straighten itself out - and it will."

(May 23) "*What would happen* if the Galaxy subscribers were able to purchase their dish and decoder? Would that leave us free to deal with any of the carriers we wished?"

(May 23) "I live in a country area in WA and own my dish and decoder. The only way Galaxy would serve us was if we agreed to pay up front for everything, including a year's subscription. I want to know how as an ex-Galaxy subscriber I will be charged for service by whomever takes over the service provider function. Unlike most ex-Galaxy viewers, they don't have to provide me with $1,000 in special equipment and then charge me by the month for its use."

(May 23) "*Optus have announced they are still in negotiation* to take over the Galaxy customers but they say they require a court ruling to begin full satellite transmission. In the interim, they say they have asked Austar to continue to provide a satellite service to Galaxy customers and they hope to make an announcement early next week."

(May 23) "Galaxy still has not shut down www.galaxy.com.au. I guess the last one out the door forgot to turn off the server!"

(May 24) "*Optus has now announced* they will not take over the Galaxy subscribers because the technology is somewhat outdated and they believe they can provide a superior network themselves."

(May 25) "The pay-TV companies preach deregulation, but don't practice it. When will they learn? Competition means letting the consumer choose, and consequently the market deciding. Anything else is not a level playing field, it is protection."

(May 27) "*The 77,000 satellite subscribers* who are needlessly being inconvenienced have every reason to be fairly-well pissed off at the contempt shown by Austar, Foxtel and Optus Vision. The microwave customers are worse off than us at present and will be mightily annoyed by now. Compared to the mega-$$$$ in savings for programme material over the term of the Australis contract, we ex-Gala's are insignificant as to the cost of the hardware scattered throughout the land. I'll bet we will all remember this contempt when an Optus canvasser next comes-a-knockin on my door asking me if I wish to switch telcos! The goodwill gauge is nudging empty, the hostility warning light is a steady red."

(May 30) "Optus is set to take over the Technology Park Centre of collapsed pay-TV rival Galaxy. A spokesman for Optus said that if they go ahead with the take-over of the facility, the full staff could be brought back to work within five weeks. The loss of Galaxy was a blow to government which had provided a purpose-built facility in Adelaide."

(May 30) "*Think about it*. If Austar moved into the cities, it would be up against the big two in Foxtel and Optus. The last company that tried this ... well, we all know what happened to them! Austar is happy with its target market of regional areas where it has zero competition."

(June 1) "I have just spoken to an installation tech who was doing a service call here. There have been some people, apparently on the border areas between Galaxy and Austar, who are being changed over to Austar. The people from Austar are removing the satellite dish, the decoder and replacing them with identical equipment owned by Austar. The only thing they are leaving intact from the original Galaxy installation is the cable."

(June 2) "*Austar has changed their message to Galaxy subs*. It now reads that Austar will endeavour to continue to provide a service to Galaxy subscribers until an alternate service is available. Should the signal go off, it will be for commercial and operational reasons and not regulatory ones. This contradicts a report in the WA press yesterday that Austar was moving as fast as possible to cut off the ex-Galaxy viewers."

(June 3) "The shakeout of the Australian pay-TV industry accelerated yesterday when cable operator Foxtel moved into satellite delivery with an offer to take over a satellite service to 50,000 former Galaxy subscribers. Foxtel said last night it had struck a deal with the receivers of

Galaxy parent Australis Media to buy 65,000 set-top decoder boxes - 50,000 with former Galaxy subscribers and 15,000 in storage."

(**June 3**) "*Foxtel's capacity to offer an immediate satellite service* relies on gaining transponder capacity on the Optus B3 satellite. Optus has been negotiating with Australis receivers to buy the Australian licence of the Irdeto encryption system, critical to running the Galaxy network."

(**June 3**) "Perhaps Professor Alan Fels could be sent to run Indonesia?"

(**June 5**) "*Foxtel is conducting satellite pay-TV trials* which could allow the cable TV operator to start a satellite delivery service without using the B3 satellite of artch-rival Optus. The tests are being conducted on PanAmSat PAS-2, and it is believed Foxtel has an option to acquire transponder space on PAS-8 when that satellite becomes available for use late this year."

(**June 3**) "Foxtel has been busy behind the scenes while we have been talking about Optus Vision taking over the Galaxy customers. My view is that for the short term, Foxtel will pay one of the other providers (probably Austar) to maintain the service to their ex-Galaxy customers while they set up their own satellite transmission system."

(**June 3**) "*Is this the way Foxtel can get around an ACCC ruling* forbidding them to broadcast via satellite? Foxtel can say they have a legitimate limited right to broadcast as they have a satellite customer base of 50,000 subscribers with a potential revenue of $2.5 million per month? A pretty clever way to get their foot into the door."

(**June 5**) "Austar refuses to provide me with service. Foxtel is taking names but similarly won't provide service on the very flimsy grounds that their buyout of Galaxy satellite equipment is very interim and they do not yet have transponder space. This really sucks; I think it is time to take political action!"

(**June 5**) "*I agree we should form some kind of action group* but very few of the ex-Galaxy customers actually have access to the information and sentiment expressed in this newsgroup."

(**June 5**) "I am afraid you won't get Richard Alston to listen to you. I received a letter from one of his minions (he is too busy to reply) saying it is not Government policy to intervene in pay-TV matters and any complaints should be dealt with by the individual carriers. This makes me wish the ACCC had made non-intervention their policy as well!"

(**June 5**) "*Why don't you ask Foxtel to hook you up via satellite*? If they say they can't, you can quote me on this. Up here in central Queensland, my locale has been installed by Foxtel using Galaxy equipment (Pace IRD, smart card and Cam). I do understand that Foxtel had a special contract to do all of the pubs in Queensland, but the point is they can and have done it."

(**June 5**) "Something is up. The Austar 'Information Channel' no longer has the Austar name on it. And when you switch channels within the bouquet, it no longer says 'Austar' at the bottom of the screen. Are they telling us this package may soon be shared with someone else - perhaps Foxtel?"

(**June 5**) "*Foxtel and Optus have been locked in negotiations* but, on the face of it, Optus may not be obliged to grant Foxtel transponder space on the B3 satellite. The development of satellite services is crucial to Foxtel and its ultimate profitability in the wake of the Australis collapse. We must remember that at least 40% of Australian homes are not passed by cable; either Foxtel or Optus cable. If Optus refuses to grant Foxtel access to transponder capacity, any near term plans by Foxtel to offer a satellite service would be upset. The move underlines Optus' negotiating leverage in rationalising the Australian pay-TV industry in the wake of the Australis wind-up."

(**June 7**) "On the news that Foxtel will introduce satellite, I rang to find out if ex-MDS Galaxy subscribers can get dishes and subscribe. The answer was a firm no. Foxtel says they are only able to 'connect' existing Galaxy satellite subscribers. So - it is onto the Foxtel wait-and-see list!"

(**June 8**) "*I for one miss Galaxy*. Even though they did charge higher rates (than Foxtel, Optus), at least if you had a problem or query, they could resolve it. Lately, have you tried getting Foxtel (who bought the Galaxy satellite service list) to send you a magazine? Their response is, 'Galaxy destroyed the June guides'. The truth is Galaxy never produced a June guide because they did not know whether they would be around or not. Or have you tried to find out who is boxing and when? Their response is -'If it is not in the guide, we don't know."

(**June 8**) "If you want a guide, ring Optus and ask for one. That's what I did. They must have thought it weird someone from Perth wanting a TV Guide when OV isn't officially here."

(**June 9**) "*Well, I am an ex-Galaxy subscriber* and would you believe I received a free, unsolicited Optus Vision guide in the mail? I rang the number to see if Optus could hook me up. I told the lady my address and she checked and advised that Optus was currently unable to provide me with a connection - would I like to go on the wait list? I answered of course and asked how long the wait would be. The answer: 'Six years from today, give or take a few months'."

(**June 9**) "Today I ordered Foxtel cable; I wanted Optus. The Optus cable provides service to homes within 50 metres of me. Optus explains they have scaled down their Body Corporate and have too few staff to deal with my 'problem'. I think Optus will lose out in the majority of Melbourne because the city is almost totally flats in major areas. Optus seems unable to deal with such sections of the city. I wanted not just Optus Vision but their telephone service as well."

(**June 9**) "*I can do better than that.* Optus has wired into my (flat) building and installed signal splitters in a metal box. Thus we have service within 10 metres of our television set. When I asked for a date when I could be installed, I was told '*call back in one year'!*"

(**June 9**) "I was hoping to get a Foxtel magazine considering that they now own my decoder."

(**June 9**) "*Here is what is happening* to the MDS (microwave) equipment. At the Sunday market, I found several for sale. Typical price was $10. By the time the real owner of these orphans gets around to asking for them back, the decoders will have scattered to the four winds."

(**June 9**) "My wife and I would love to go onto Foxtel. Unfortunately, they have told us they are not interested in our business. They told my wife, when she called, they have a 'quota' of so many subscribers in each geographic area and ours is now filled up (!). I am talking about Greenacre, a central suburb of Sydney here - not the bush. When we first failed to get Foxtel, we had Galaxy put in. With line of sight to one of their transmitters, it worked fine. Now Galaxy has gone under, we have again contacted Foxtel (as an ex-Galaxy microwave subscriber) and have been told they are only interested in taking over ex-Galaxy satellite subscribers. We asked how to get a satellite set-up and I was told I am wasting my time; "*We are only interested in current Galaxy satellite subscribers.*" We are in a relatively new region with no overhead cables; hence Optus also told us we are out of luck. So where do we go from here?"

(**June 9**) "*Why don't you get, say 20, of your neighbours* to agree to take cable and then go to both Foxtel and Optus to see if you can negotiate a deal to have them put it into your area. If the provider was more certain of having a return on their investment, perhaps that would get their attention. This sort of 'bargaining' is often used in Adelaide by utility companies providing gas to homes."

(**June 17**) "Don Hagans' decision this week not to renew his six-month consultancy running Optus Communications' tottering pay-TV business is a wake-up call to the embattled second telephone carrier. Its whole strategy of using pay-TV as a carrot to win local telephone call customers, the so-called 'pull-through' effect, is in tatters. Optus must decide soon whether it wants to stay in the pay-TV game, which it is losing badly, or face reality and quit. As a wise head once observed, never pick a fight you can't win and Optus is copping a fearful hiding."

(**June 18**) "*If cable TV is superior to satellite*, why is Australia the only country in the world where Rupert Murdoch operates pay via cable? His services in Europe, South America, Asia, the USA and even New Zealand are all via satellite."

(**June 20**) "I have just come off the phone speaking to Optus Vision (doing my monthly beg to be connected to their service) about satellite services. Here is what they told me: '*We are in court with Foxtel over who has the right to broadcast satellite service'*. Court? What court? I haven't seen anything about this before."

(**June 21**) "*What has been achieved thus far* is an industry loss of $4.2 billion, forced liquidation of one company with significant job losses, no real improvement in pay-TV programming, and the original two telephone carriers still fighting over wholesale charges with no real interest in pay-TV whatsoever. Foxtel will not stop at removing one competitor - watch out Optus. You are next!"

(**June 22**) "What is all the fuss about? We had pay-TV in Sydney 30 years ago! Our family was poor and we had a TV set that you had to drop 2 bob into to watch for an hour. My younger brother managed to get a coin stuck and it just stayed on. The guy who came to collect all of the coins at the end of the month was probably amazed how little we watched the telly. We managed to get coins stuck every month after that."

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TECHNOLOGY
BYTES

...BITS and BYTES you may have missed in the rush to make a dollar ...

July 1, 1998 ◆ VOLUME 98-6-49

Satellite TV/Radio & Communications

Little appreciated new regulations dictating electromagnetic radiation and safety standards for virtually any product that plugs into electric mains have gone into effect in Australia. "Electromagnetic compatibility" (EMC) is the ability of an electrical or electronic device or system to function in an electromagnetic environment without introducing intolerable electromagnetic interference (EMI) to anything else in that environment. Standards relate to maximum levels of signal radiation from any device containing an oscillator or transmitter or capable of creating radio frequency energy as a side effect of some other function. Affected is virtually every mains operated device sold to the public or used in industry including white and brown goods, office equipment and consumer electronics. The new regulations are administered by the Australian Communications Authority (ACA) and require that prior to offering for sale of any new product or subassembly after January 1, 1997, a testing and certification procedure must be completed for the product. Equipment offered for sale prior to January 1, 1997 has until January 1, 1999 to comply. The aim of the regulations is to reduce "to an acceptable level" any "unintended emissions from electrical and electronic goods." Affected are satellite television receivers, LNB and LNBF products, line amplifiers utilised in TVRO installations, stand-alone domestic, SMATV and CATV modulators and standards converters. Any product that contains a "switch mode power supply" regardless of its intended use is also required to have EMC certification. The procedure involves testing by an accepted agency or private firm with known testing credentials, maintenance of a "Compliance Folder" for each product, the creation of a "Declaration of Conformity" and when the product is properly accepted with post-testing and paperwork, the labelling of the product as conforming (the so-called C-Tick label). There are significant penalties for not complying including agency ability to demand products be removed from sale until conformity is completed, in addition to monetary fines.

Switch mode power supplies. It is highly unusual to have the design of a satellite receiver power supply become a controversial subject. The UEC 642 receiver, chosen as one of two *"approved"* by Optus Communications for their RABS (and possibly Optus Vision DTH) platform has a design known as "switch mode." What this does it eliminate the more expensive power transformer found in most IRDs, to the benefit of the manufacturer (i.e., it saves several power supply dollars by eliminating the transformer and support parts). One source advises CTD the switch mode design was selected at the instruction of Optus itself - their way of coping with remote RABS site gasoline or diesel power generators which are notorious for having bad voltage characteristics. In theory, a switch mode power supply will be more forgiving of mains (generator) mains voltage variations than a transformer power supply. However, the switch mode supplies also have some undesirable characteristics including the creation of high levels of radio frequency interference (RFI). Under the wrong circumstances, the power supply will radiate RFI into the airways around the receiver, and through leads connected to it, and thence into the surrounding air. Such radiation can in turn cause interference to AM and FM radios, even TV reception. Not to speak of two-way radio circuits. There is a growing series of reports that the UEC 642 receiver has problems with the switch mode power supply for RFI and other reasons. A prediction: While the UEC 642 may have been approved and publicly commended by Optus Communications for RABS use, do not be surprised to see some back paddling on this appointment. Shortly.

Hyundai software versions. When Hyundai shut down their Korean FTA MPEG-2 production line for satellite receivers, the then-current software version was 5.0. Unfortunately, the 5.0 also included an L-band tuner change out which resulted in reduced IRD sensitivity coupled with the improved software performance. In a sense, Hyundai left the IRD field on a sour note. From July 1997, a Hyundai receiver has been available through Singapore sources under a face plate name change of Yuri. The Yuri models have paralled the Hyundai's through a series of software updates (2.05, 2.24, 2.25) with one significant variation. Yuri software has typically preceded by a month or more the software upgrades for Hyundai branded units. And the Singapore source (later augmented by Nationwide Antennas in Australia and others as a South Pacific source) was selling version 3.11 which updated their version 2.27 when Hyundai called it quits. The Singapore firm was shipping version 3.11 in mid-March while the Australian distributor, Skandia, did not begin to offer the same version in Hyundai IRDs until late April. The true origins of the Yuri version of the receiver remains something of a mystery although the

SKY NZ Letter to Existing Analogue Satellite Subscribers

During June Sky Satellite TV sent letters to existing satellite subscribers for their Sky Sport and Sky 1 (previously Orange) channel services. The letter follows:

"I'm sure you've enjoyed the great Super 12 competition on SKY Sport and like us are looking forward to the international rugby season. Over the past few months we have been busy bringing together final details for the digital satellite launch scheduled for later this year.

"We have recently placed confirmed orders with the digital decoder manufacturers. (**a**) This means the first digital decoders will be available for installation around the beginning of October. Around this time we will contact you to arrange swapping out your existing decoder ready for the full launch. Once all of the decoders have been changed out we will be able to offer you a range of up to 20 channels of crystal clear digital television (**b**).

"We have also been negotiating with programme suppliers in New Zealand and around the world to bring you the best possible value on SKY Satellite TV. Once these negotiations are concluded we will write to you again with full details of the available packages and prices so that you can decide which package best suits you (**c**).

"In the meantime I hope you enjoy the great viewing on SKY Sport, Sky 1 and Cartoon Network over the coming months. For full details look in *SkyWatch* Magazine. If you currently do not subscribe to *SkyWatch* but would like to, simply give our Customer Services a call on 0800 759 759 or E-mail us at sky@skytv.co.nz and you will receive your first copy absolutely free. The *SkyWatch* magazines carries full monthly listings as well as interesting articles on sports and other programmes on SKY. *SkyWatch* also has special offers and competitions exclusive to SKY subscribers and at just $2 per month it is great value for money (**d**).

"SKY has placed a premium on providing its satellite subscribers with the best technology possible and best value programming and this has caused a delay in launching our full satellite service. Once the digital service is up and running we are sure you will agree the extra wait will have been worthwhile. By the end of this year you will be the first people in New Zealand to receive multi-channel digital television service at the cutting edge of 21st century technology (**e**)."

(signed by) Mike Watson, Director of Customer Services

a) "*digital decoder manufacturers*" suggests there will be more than one IRD supplier for SKY digital; if true, not previously revealed. As CTD reported in 98-04-47 (April 29), SKY has selected Pace Micro Technology to supply 50,000 "standard NDS format conditional access IRDs" that are identical in design to those being utilised by Murdoch (Sky) DTH services to Brazil and Central-South America. Sources outside of SKY advise CTD a second source contract was being negotiated with US firm Zenith which may explain the plural use here.

b) "*20 channels of crystal clear digital television.*" SKY will initially have one transponder available for digital service and this will be capable of not more than 11 programming channels. "20 channels" will require two transponders which are not possible until the present analogue service shuts down. The sequence is as follows: (**1**) Begin with 11 or fewer programming channels using one transponder, (**2**) Switch out 12,000 analogue decoders for digital decoders using the single digital transponder for service, (**3**) When all analogue units are replaced, switch off the two analogue service channels, (**4**) Start up additional (total number at this point 22 or fewer) digital programme channels. The present analogue customers will be the first to have digital service available, but not to exceed 11 channels until the second transponder comes on line.

c) "*which package best suits you.*" Still unknown, whether terrestrial networks (TV1, TV2, TV3, TV4 and now Prime) will be available as free to air services through Sky.

d) "*...at just $2 per month it is great value for money.*" SKY continues to refuse to accept subscriptions for SkyWatch from cable TV viewers.

e) "*...the first people in New Zealand to receive a multi-channel digital television service...*" Totally untrue of course. Any home or commercial establishment equipped with a C-band satellite dish has access to several hundred channels of digital television already.

Singapore source has routinely been selling their version for US$300 at a time when Hyundai versions with the same software have been more than ($US) 100 dearer. All Eprom sets inside of the Yuri versions have carried 100C-YURI markings although IC U601 and the main circuit board in the IRD carry Hyundai markings. It

appears the Yuri 3.11 version software coupled with the RF tuner available originally in the version 2.24/2.25/2.27 software IRDs may be the best of the last of the Hyundai/Yuri products in this field. Version 3.11 software installed in the last run Hyundai receivers equipped with the replacement model and less sensitive RF tuner apparently do not perform as well.

Viaccess MPEG-2 DVB Complaint IRD. In rack mounting, semi or full professional version. If any reader knows of a source for such a receiver, will they please advise CTD?

Optus Communications Pty has sold its ownership rights to the B3 satellite to the Commonwealth Bank of Australia for a reported $A206 million. Under the terms, Optus is leasing the satellite back from the bank for operational purposes. In effect, Optus has raised $A206 million for other expansion work. Optus has also raised A$450 million and $A390 million through recent lending and rights issue sales. Optus is 49% owned by UK firm Cable & Wireless plc.

Hallmark on satellite. This channel is scheduled to launch a new feed utilising ApStar 2R, transponder 3A (3720, Vt.) July 1st using PowerVu as a conditional access system (model D9225 IRD). The digital numbers are 19.510 and 3/4 with two video channels initially available; channel 1 in PAL and channel 2 in NTSC, channel 3 is colour bars (for the Kermit Channel later start) in PAL, channel 4 is NTSC-same. This feed will differ from the present AsiaSat 2 service (which remains FTA) by adding (traditional) Chinese subtitles with "*additional languages to be added at a later date*." Associated update - Hallmark's merger with Jim Henson Enterprises (CTD May 27, p. 14) slated to produce a mixture of Henson and Hallmark programming sometime in September now appears to be headed in a different direction. Henson now says his programming will occupy one channel, Hallmark another in a shared bouquet but not before the end of 1998. Hallmark has also entered into agreement with US based Showtime Networks to co-produce and distribute 10 original films which Hallmark will distribute exclusively outside of North America. Hard to locate contacts for Hallmark: Warren Kaplan, Vice President of Broadcast Operations (E-mail wkaplan@hallnetwork.com) and Jose Perez, Manager of Broadcast Operations (E-mail jperez@hallnetwork.com) via telephone at ++(USA)303-220-7990 and fax ++(USA)303-2210-7660.

Another difficult to locate contact number. National Geographic Channel *Australia:* Bryan Smith at tel 61-2-9200-1000 and fax 61-2-9200-1956. National Geographic Channel Asia is Bryan McGuirk, telephone ++852-2965-6800 and fax ++852-2965-6889.

More. Latest contact names and numbers for: ABS/CBN Broadcasting Corp. (Philippines) at tel ++63-2-411-1167 and fax ++63-2-924-2732 (Patricia Daza, Distribution Manager). Indovision Commercial Operations: S.M. Ragless at tel ++62-21-502-8000; fax ++62-21-582-5450. KIBC TV (Philippines): Vince Waterson, VP Business Development at fax ++63-47-252-3710 and e-mail vince@kibc.com. CCTV (China TV Program Agency): LU Chunguang, Deputy Manager, Sales Department at tel ++86-10-6395-5913 and fax ++86-10-6395-5915 and e-mail ctvprog@public.bta.net.cn. JET-TV, Farook Mohamed (Director of Sales & Marketing): tel ++65-546-4647, fax ++65-546-4648 and e-mail farook@jettv.com. Greek TV network investigating transmission of national ET1 service in FTA format into Pacific: tel ++30-1-7701911. Greek commercial network providing limited programming to Optus Cable: Antena at tel ++30-1-6850370. General PanAmSat information (of a press nature): Dan Marcus at tel ++(USA)203-622-6664 and fax ++(USA)203-622-9163. Global Internet Ltd (+21 Adult channel on ApStar 2R): Tel ++-91-172-552119 and 172-554331; fax ++91-172-553014. Hong Kong programmer TVB 8 also on ApStar 2R: Stanley Tang at fax ++-852-2358-3227. Shinawarta Satellite Public Company Limited (Thaicom satellites): International Sales - Worawit Yangvanich at tel ++66-2-591-0736; fax ++ 66-2-591-0719. RAI International in Australia: Tel 61-2-9299-6535 and fax 61-2-9299-5366 (RAI International WWW site is raiinternational.rai.it). Australian Senator Richard Alston's office for e-mail: minister@dca.gov.au.

Plus 21. Another badly orchestrated programme launch. The European based, new-to-India adult programmer has run several months of promotions on three different satellites and formats, apparently uncertain how and where they would launch their service. Now comes word (in letter dated June 22) they made an error in selecting conditional access equipment and the start of their service is further delayed. Letter reads, in part, "*We wish to inform you we have placed a confirmed order for encoding and encryption equipment ...with a company in San Jose, California on April 3 (1998). The company was to provide and install the equipment with Viaccess Conditional Access before May 31st. However, to our surprise, the company has informed us they have learned US Export Law requires them to obtain an export license before they can ship the equipment. This license will take a minimum of 10 additional weeks.*" Which, somehow, prompted PLUS-21 to change to a new conditional access system and with it an entirely new line of IRD. The letter states, "*Plus 21 Adult Channel has made alternative arrangements with Scientific Atlanta Inc., Singapore to supply Digital Integrated Receiver Decoders and smart cards immediately with PowerVu Encryption and Conditional Access system. The encoding and encryption requirements have already been installed at the uplink centre. The effective delivery of these IRDs and Smart cards shall take place by the last week of July 1998 and the full adult programming services will start from September 1, 1998.*" One of the primary "selling points" of the SA PowerVu systems is that it requires

DIVX Launch Saga: Delays and more delays

Originally scheduled for late April, postponed to several dates in May, then bumped into June - the controversial subset of DVD, DIVX (Digital Video Express) created by retailer chain Circuit City finally went to market week of June 8th. The launch for the new product was tarnished by software problems primarily related to the unique-to-DIVX encryption routines. "Open DVD" discs are digitally encrypted following an industry standard format. DIVX discs are further encrypted (see CTD #48, P. 6) to prevent unauthorised use or copying of the movie product. The extra encryption apparently caused teething problems with the replicators engaged to create the first runs of DIVX discs. From a total of 75 titles planned to be available for the two market launch (San Francisco and Richmond [Va]), by late in May the number of titles which were surviving disc pressing without problems had been reduced to 25. Circuit City believed it needed a strong portfolio of titles to accompany the launch and delayed the debut of the new technology until the replication problems were sorted out. On launch day, 30 titles were available rising to 42 one week later.

DIVX has polarised the movie and home rental industries as few new products previously have ever done. There has been speculation that studios agreeing to release their movies on DIVX were being paid some sort of premium to do so. It now turns out this is true. Circuit City is guaranteeing movie studios $US112 million for initial five years. DIVX has claimed its superior encryption technology stops the export of DVD movies outside of North America before a film is officially released to a foreign market. It was this claim which caused Disney and others to back the technology by agreeing to release films on DVD at the same time as they were being released on VHS tape in North America. Disney routinely delays release on open DVD; for example, "Scream 2" was released on VHS tape in North America June 9, will not be released in open DVD until July 31st.

DIVX test market launch included 3 Fox titles (*The Full Monty*, *Volcano* and *Speed 2*); Fox has not released any titles on open DVD to date. Similarly, Paramount released *Clear and Present Danger*, *Star Trek: First Contact* on DIVX - neither is available on open DVD at this time. Disney's Buena Vista is releasing 3 recent release DIVX titles in advance of open DVD this month as well as well as five "'older' films that have made their VHS debut up to a year ago but have yet to be released in open DVD. Disney releases do not include animated classics at this time - indeed Disney is holding back all animated products and says they will not release them on open DIVX until they have also been released on open DVD.

A major part of the DIVX lure, they hope, will be titles which are available in video disc format earlier on DIVX than through open DVD. This coupled with the DIVX format of renting and not returning discs and the below-market price for DIVX players (more than $US200 below open DVD players) are expected to drive the format's success.

Assuming two-market test does not flop terribly, Circuit City plans national rollout of technology in August or September.

"Open DVD" competition to DIVX is responding with some marketing tricks of their own. San Francisco advertisements offer "Five free DVD discs worth $125" selected from 25 different Warner/New Line titles "with purchase of Philips or Toshiba DVD players."

no smart card, that users are individually addressed within the CA data stream in a manner not requiring a card. That said, there are some versions of the SA IRDs which could accommodate a smart card although to the best of our knowledge no such IRDs have been fully equipped for Smart Cards to date. We will keep you advised.

How EMTV decoders are processed for PNG. Now that 9 Australia owned EMTV has completed securing of its AsiaSat 2 PowerVu format digital service, a summary of how the decoders are processed for EMTV viewing. SA model D9234 and D9223 IRDs are shipped by SA to PNG agents pre-authorised for the service. Prior to each shipment, SA couriers to EMTV a list of the newly shipped IRDs allowing the broadcasters to load the new IRD numbers into their uplink conditional access computer. Buyers of IRDs are required by the PNG agent to complete a registration card which is mailed back to EMTV to ensure the IRD is not turned off at some future date.

Late France '98 World Cup Soccer feeds/coverage update: TVRI on Palapa C2 (3840/1310Hz plus TPI (4183/967Vt), both FTA analogue. Revised channel loading for RFO digital feed on Intelsat I180 (4095/1055LHC, 27.500 and 3/4): (1) Canal + Caledonia, (2) Canal + Polynesia, (3) Saudi TV, (4) Abu Dhabi TV, (5) Radio Abu Dhabi, (6) Elibera FM, (7) **TOM 1**, (8) F1 Stereo, (9) France Info/F1 Go, (10) **TOM 2**, (11)

WARNING: Power Supplies in SA D9225 Receivers

A Scientific Atlanta D9225 business/commercial IRD failure traced to a purpose built internal power supply manufactured for SA by Astec Custom Power (of China). The problem could have been one-off or there may be a larger universe situation here. Scientific-Atlanta's Sydney office refused to provide service information or a schematic to the New Zealand technical shop attempting the repair. There are two Astec Web sites (one USA, one UK) which provide some information but they also refused to respond to queries. The Kiwi technician (Neill Ellis) traced and drew out the schematic and located the fault. A +5v rail had climbed to +7v before the power supply shut down. The technician reports, "*the fault can occur and lie dormant only to appear when the receiver is powered down. The fault only affects the receiver on start-up and the supply when so affected will hiccup indefinitely.*"

The recommendation is that owners of the D9225 periodically turn off the IRD at the mains (unplug it) and then restart the receiver to see if it restarts properly. If the receiver has the power supply problem described here, it will refuse to restart or start and stop in an intermittent state. This is a direct message to turn the unit off at the mains and seek professional assistance. If the problem goes unnoticed, the +5v rail rising to +7v could over a period of time (if not instantly) result in far more significant damage to the receiver.

In the case of the receiver fault spotted early as described here, the cost of the repair was under $NZ100; far less than would have been expended in returning the IRD to Sydney for repair.

Contribn Paris Stereo 1, (12) Contrib Paris Stereo 2, (13) **TOM 3**, (14) RFI Radio Blkeu, (15) France Info/F1 Go. Of these, those underlined are conditional access and those **bold face** are World Cup Soccer feeds mixed with other RFO programming for the Pacific.

Uncertain. Recent attempts to "load" the digital programming bouquet operated by SPACE TV Systems on Intelsat 702/177E (12.612Hz, 26.694 and 3/4) indicate 18 different digital programming channels are at least within the data stream (although because of CA restrictions the content - if any - is unknown). Programme channels 201-207 appear to be TV programming, 301 is Thai 5 TV (remains FTA), 501-510 appear to be radio channels while 3801 and 3804 are believed to be pair of Canadian sourced adult programming channels. Status of the adult programming remains a mystery as the original programmer (Exxxtasy) has been variously reported as "sold" and "merged" with another North American adult film provider. Original intent of including twin adult channels on feed was to reach Korea and Japan US service bases (isn't it amazing what the US government will do to make the boys "feel at home" while stationed far from their loved ones and family!). Taiwanese reports that SPACE TV Systems is out of business may be correct, but somebody forgot to turn off their transponder if this is true.

ChinaStar-1, now at 87.5E, has greater transponder capacity than previously announced; 24 each C and Ku-band on board. Satellite was launched May 30th via Long March 3B and apparently represents most powerful Chinese dual band satellite placed into orbit to date. As with previous Chinese satellites (i.e., ApStar series), this one is "squatting" at location not previously cleared by international regulatory body and with full complement of transponders on board, significantly jeopardises Singapore's ST-1 satellite scheduled to 88E later this year.

Sinosat-1 has arrived at China's Xichang Satellite launch centre and could be launched anytime after July 15th. The French Aerospatiale built satellite will go to 110E where it will operate with 24C-band and 14 Ku-band transponders. The operating firm says it will lease transponder space on the satellite to non-Chinese firms, another first for China. The C-band transponders are 21 watt while the Ku-band are 97 watt making it equivalent in operating power to the AsiaSat 3R satellite scheduled to 105.5E late in the first quarter of 1999. No footprint maps have been released in advance of launch but Chinese sources claim the satellite will "cover China and neighbouring countries."

Filipino failure to secure advanced approval for location of their Agila-2 satellite at 146E is costing the satellite operator some transponder bandwidth. The satellite sits 2 degrees removed from Japan's Superbird C at 144E. Agila-2 has 24 high powered Ku transponders, 16 of which are owned by satellite builder Loral while the remaining 8 are owned by Mabuhay Philippines Satellite Corporation. Interference from 8 of the Loral owned transponders to Superbird C use in Japan forced a compromise with Loral agreeing to turn off and not use the 8 transponders. The Agila-2 bird has been plagued with operational problems since launch and is attempting to survive squeezed between Superbird at 144 and Measat-2 at 148E.

H. Thomas Telesis Inc of the Philippines has been awarded two geostationary orbital locations previously secured by the government of the Philippines. The locations are 151 and 153E. Telesis says they plan to launch a new Ku-band DTH service before the start of 1999 and is studying possible interim use of Agila-2 (146E),

Thaicom-3 (78.5E), KTV Hot Bird (to be at 95E), Singapore's STW-1 (88E) and PAS-8 (166E). The firm plans to use as many as 8 Ku-band transponders for a service of 50+ DTH channels and will consider launching its own satellite to 151 or 153E as the economic conditions in Asia improve. The uplinking will be done from the Subic Bay (Freeport Zone) facility.

New analogue programming sources. Optus B1, 12.730 Hz, transponder 8V with test card for Rural Health Education Foundation (analogue). CNN is operating on PAS-2 vertical, parallel to original horizontal feed (3910/1240IF). CNN is under some pressure from PanAmSat to vacate the horizontal polarity transponder it has used since switching to PAS-2 from I180 - or - or, convert to a digital format which would free up valuable (to PanAmSat) transponder space on now over loaded PAS-2. USA baseball games sent live on I177 C-band (4178/972RHC) by Fox Sports to Foxtel and probably others; FTA analogue.

New digital programming links: Intelsat I180, RHC, 4025/1125IF; Msym 3.700, FEC 5/6 (Universal link). PAS-2 Ku, 12.730Hz, 6.620 and 2/3 with two video channels (NAPSA-3 x 2) plus one CA data channel (Metromux NA 3). California bouquet (PAS-2 Hz, 3901/1244IF) has been running "Animal Planet" test card with announced start date of June 26th on programme channel 8 (programme channel went CA on that date). Animal Planet is product of Discovery and has previously been offered in North America, Europe. PAS-2 3940/1210Vt Msym 7.498 and FEC 2/3 (Napasa4, Metromux NA4, BBC N2 [FTA]). PAS-2 3761/1389Vt Msym 6.110 and FEC 3/4 (service 1). At press deadline: Several new, strong, CA digital bouquets on ApStar 2R (76E) as reported across Australia: Hz side - 3720/1430, 3885/1265, 3920/1230, 3990/1160. Vt side: 4099/1051, 4200/1450.

NHK Premium. Depending upon whom you ask, NHK "Premium" is (1) available only to commercial users, (2) Not available at all, (3) available to anyone willing to pay the fee. There is a bigger question: How does NHK Prime differ from the free to air programming transmitted on NHK World? The answer is - it does not. The very same programming at the very same time. So why would someone pay for NHK Premium when the same content is on FTA NHK World? NHK Joho Network says, "*in the future NHK Premium will have different content*." Perhaps. For now, the answer to "can you subscribe?" is found in an 8 page brochure available from NHK Joho Network (fax ++81-3-3485-8677). A summary: The "confusion" over who qualifies to subscribe is found in a single sentence at the start of the brochure. It reads: "*Even if there is no local provider, companies, other workplaces etc. can contract directly with NHK Joho Network to receive 'NHK World Premium' on a fee-paying basis.*" Some (most) have interpreted the words "*...companies, other workplaces...*" to rule out individual home subscriptions. This turns out to be an incorrect assumption; individual homes may subscribe. Is there a set fee? Yes, and no. Rates in the region of $US20 to $US40 per month are reported for individual homes. The brochure does not state rates, rather it establishes a mechanism where you advise NHK Joho of who you are, how many TV sets will be watching and they will then come back to you with a rate quotation (the application form includes the sentence, "*The fee will be determined by the size of your workplace and the number of TV sets.*" By not openly soliciting "single TV set, DTH viewers" NHK avoids a situation where every would be user automatically claims the lowest monthly rate category. One interesting "catch" in the application form: You are asked to provide your name on two lines - one in "alphabet" (as in English) and one in Japanese (as in characters). Will they turn down your application if your name is not listed in Japanese characters? Probably not. Additional ways to contact NHK Joho: Tel ++-81-3-3485-7730, (fax above), E-mail premium@nhk.jn.co.jp.

Palapa C2 3460 (Hz) Indovision terrestrial TV digital bouquet (Msym 21.000, FEC 7/8) does not require a subscription but only unlocks when received on Pace DVS-211 received equipped with "smart card" that has authorisation for reception of Indovision pay-TV services. There are six high quality Indonesia TV channels here: (1) AN TV, (2) TPI, (3) Indosiar, (4) SCTV, (5) RCTI and (6) TVRI "1."

Product/lifestyle distributor Herbalife has vacated their transponder space (twice weekly) on PAS-2, Ku for a similar position on Optus B3. The transponder chosen on B3 allows continued service to New Zealand as well as Australia (12.394 Vt, 6.6 MHz subcarrier audio, J17 de-emphasis and 380 kHz bandwidth). Herbalife is planning two additional moves, one to digital format and a second to B3 horizontal transponder 11. The move to 11 will effectively eliminate small dish service to New Zealand and may be an error in the information made available.

Bonneville International, the communications arm of the Utah headquartered Mormon Church, is in advanced planning for launch of a Pacific and Asia service utilising the new Orion 3 satellite (139E, scheduled launch October). Bonneville is leasing 9 MHz of space on the satellite, will employ a digital MPEG-2 format to deliver educational and church related materials to Mormon sites throughout Australia and New Zealand.

Foxtel programming, last seen June 19th during brief testing with up to 6 programming channels operating, PAS-2 Ku 12.714Hz with changed Msym of 29.473 and FEC of 3/4.

B3 12.438 Hz. Transponder has been turned on, testing at 29.473 and 1/2 digital from June 24. To presstime, no identity (nor actual programming) of tester noted amidst rumours that Foxtel will appear here July 1st.

2 GHz Spectrum Sales Will Be Delayed

The next major radio frequency "auction" planned by the Ministry of Commerce, covering 2 GHz region spectrum suitable for telephone and data interconnection networks, is being delayed. The original schedule called for August through an Internet procedure developed during the first of year auction sale of 28-30 GHz frequencies. Complaints concerning the auction process, and what BellSouth characterised as a failure on the part of the Ministry to give adequate advance information is a partial cause of the delay. September is now the earliest date for the postponed 2 GHz sale; "early 1999" is more likely. The Ministry has appointed a new Spectrum Manager (Kathryn Moody) who is reviewing the procedures created for Internet auctions. There are probably other elements involved in the delay as well: (1) Weekly-new technology breakthroughs for 2 GHz telecommunication systems suggests the frequencies will be even more valuable in six months than in August (a delay equates to greater revenues), (2) Present users of the 2 GHz region, including BCL and other major users, are having significant problems arranging substitute plans to replace their to-be-lost 2 GHz channels, (3) the Australian and therefore the New Zealand telecommunications world is in a muddle, the subset of the failure of cable TV and satellite pay-TV to become profitable (which directly affects all of the Australian partners here).

Not everything coming up roses for Murdoch. Although it may appear News Corps' jointly owned Foxtel cable service in Australia has dealt competitor Optus a significant blow (see p. 2 here), not all Murdoch controlled DBS projects are turning out well at this time. Murdoch's STAR TV with headquarters in Jakarta has done virtually everything wrong in attempting to turn four programme channel Indovision analogue package into 20+ channel digital service. The latest snafu - perhaps exacerbated by the Indonesia political situation - the apparent crippling of S-band purpose-built satellite Catawarta which has been designated as new home for Indovision service. Now in North America, the grand Murdoch plan to buy into the cable television consortium which controls DBS operator Primestar appears headed for defeat at the hands of the Department of Justice (DoJ). The background. Telephone firm MCI and News Corp jointly bid on and won through an FCC auction the rights to operate a (new) DBS service from the prime location of 110W. The pair placed an order for two satellites to provide 28 transponders at that geostationary location (capable of providing more than 300 TV programme channels with current compression technology). Along the way, while the satellites were being built, Murdoch went aside and attempted to negotiate a partnership with DBS competitor Echostar. Within 45 days of announcing a "done deal," that one fell apart and the two sides are headed for a high profile court case presently scheduled for November. Billions of US dollars are involved in the suit and counter suit filed. Shortly after killing the Echostar merger with MCI/News Corp, Murdoch then announced a plan to buy into the Primestar DBS system which is controlled by the major US cable television operators (TCI, Time Warner, Comcast, Cox, MediaOne). Primestar was started by the cable multiple system operators (MSOs) when they feared DBS might take a chunk out of their subscriber roles. Rather than sit back and watch this happen, they formed Primestar and entered into a competitive DBS war with first in the field DirecTV. The DoJ filing contains some specific language that introduces the legal position against Primestar, including: "*If the proposed deal* (with MCI/News Corp) *goes through, Primestar would have little or no incentive to compete aggressively against cable (TV). DBS is the only real threat to the cable monopoly and the cable companies knew this and decided to merge* (into Primestar) *rather than compete.*" Under the MCI/News Corp + Primestar merger, 20% nonvoting equity and a convertible note with a value estimated at US$1.1 billion accrue to MCI and News Corp. Additionally, Primestar is agreeing to carry various News Corp (Fox) television programme channels. Reportedly, MCI/News Corp are locked into the Primestar deal and cannot go elsewhere with their 110W (+ 2 satellite) asset. Echostar in responding to the DoJ suit issued a terse statement as follows: "*It is not in the public interest to give the single piece of real estate (110W) which is most capable of fostering competition to cable to the largest cable cartel ever formed.*"

Echostar added 162,000 new subscribers between January and March, with 1.3 million subscribers total. Overall, satellite TV industry added 494,000 new subscribers in same period with March 31 tally of: DirecTV/USSB - 3.6 million (and still losing money), Primestar - 2.1 million, C-band dish users - 2.0 million and Echostar at 1.3 million.

Launch swap. When AsiaSat 3's Proton (Russian) launch failed late in December (1997), the Russians cancelled all scheduled Proton activity pending a study of the failure. Slowly, additional Proton launches have been re-announced as nervous satellite builders want to get back into the launch cycle. PAS-8, scheduled for 166E, is one of the satellites waiting in line for the Proton service to get back into full swing. Late in May the Russians announced the launch date for PAS-8 had been moved forward to mid-September. Within a week, the

schedule was fine tuned to a new "October 1998" projected date (October 9th is one unofficial date, the 29th another). Prior to the Proton failure, PAS-8 had been expected to launch "sometime in the 4th quarter of 1998" which is precisely where it rests today. With Foxtel and others anxious to get on with their business plans, pressure to speed up the PAS-8 launch is evident. Of interest - Proton in releasing the launch schedules through 1999 does not list AsiaSat 3R (the replacement for failed AsiaSat 3) at all but AsiaSat tells CTD their date is March 15 (1999).

Galaxy was not the only DTH service provider to shut down in May. In Germany, highly promoted DF1, a digital platform backed by German media mogul Leo Kirch, pulled the plug and called it quits as well. The service required one million subscribers to be viable, never attracted more than 120,000 and most of those were given IRDs gratis on an extended loan basis in return for paying a monthly service fee (i.e., the installation fee was waived). Nokia had supplied their D-Box version of the Mediamaster for the service although thousands (perhaps tens of thousands) of d-boxes have been "misplaced" by German viewers who found they would also function with non-DF1 digital platforms as well. Kirch reportedly lost more than DEM 1 billion on the ill-fated project.

Satellite DBS operator Echostar, turned down at the alter by News Corp in April 1997, is now entering an alliance with Loral Skynet, operator of the North American based Telstar satellite system. They plan to marry the DVB DTH knowledge and expertise of Echostar with the satellite link experience and resources of Loral Skynet to create a new transmission and distribution service scheduled to launch in September (1998).

Echostar's launch of EsIV may have problems but the DBS operator is not admitting a launch failure at this time. The satellite launched May 8th via (Russian) Proton, was scheduled to 119W to replace Echostar I there. In orbit, one solar panel has refused to deploy cutting available power for bird. Satellite was then assigned to 148W where it would be used to supply additional "local TV channel" services to DBS subscribers of The DISH network. Further testing has now revealed it may stay at 119W to join with previously launched Echostar II in creating total of 21 operating transponders at that location. Ultimately, either Echostar I or IV will end up at 148W.

DirecTV pay-TV service in North America will be offering six channel surround sound on pay per view movies from July 1. New RCA/Thomson model DSS451RB digital IRD with $US449 street price now includes this feature (price includes 18" dish, LNBF and UHF/VHF antenna for local TV reception). Same receiver will also process normal stereo audio for those users who do not have surround sound capabilities. Of note: This new model will not provide reception of new HDTV transmissions which DirecTV promises before end of year (yes - that will require yet another special purpose IRD).

BSkyB trials are reported underway from temporary Astra 1D satellite at 28.2E. The satellite was placed at this location in February when it became apparent the launch of purpose built Astra 2A and 2B satellites would be delayed and this would in turn delay start-up of News Corps flagship digital DTH platform for the UK and Europe. Astra rival EuropeStar in a move to deny Astra of orbit space at 28.2E had earlier moved its Hotbird IV to 29E. The Astra satellite utilises the 11.7 - 12.10 GHz region while Hotbird IV transmits in the 11.7 to 12.5 GHz spectrum. Testing will determine whether the competitive satellite systems can function so closely together utilising essentially the same downlink frequency bands. Uniquely, Hotbird IV has on board computer operated processors which were designed to allow as many as six separate 6.3 Mbps digital signals to be combined at the satellite into a single 38 Mbps downlink data stream. This technology, if proven, could make future satellites that depend upon on-ground channel combining out of date very quickly.

Internet and two-way communication return channels, from home or office sites back through the satellite, are feature of new Astra 1H (end of 1998) and 1K (2000) satellites. The satellites, operating from 19.2E, have up to 52 Ku-band transponders utilising frequency reuse (different spot beams using same frequencies to divergent footprint regions) and a pair of Ka-band (29.5 GHz) transponders. Data channels to the subscriber/user location will be at transmission speeds of up to 38 Mbps, while the return Ka-band service from user location to satellite will be dependent upon dish antenna size (with 60cm dishes, speeds to 150 kbps, with 1.2m dish sizes, speeds to 2 Mbps). Satellite owner SES sees the twin satellites as a stepping stone to an eventual "bandwidth on demand" service featuring Ka-band more prominently for both down and uplinking paths. The magic era when any home or business can download files at 30+ Mbps and back through the satellite communicate at speeds in excess of 2 Mbps is getting closer and closer. In five years, his will be a very tough technology for the twisted pair telecom facilities to compete with.

Final pieces in place? Ambitious plan originated by Microsoft's Bill Gates and telecommunications pioneer McCaw to launch Teledesic network of low earth orbit (LEO) satellites may finally be ready for showtime. The project involves more than 60 custom built satellites designed to provide high speed Internet broadband communications. The original price tag of US$7B has risen with time and has been modified significantly in concept. Under the newly announced partnership, Motorola Inc. will hold a 26% stake in the network while other name-brand corporate partners include The Boeing Company and European satellite manufacturer Matra Marconi Space. The new plan involves remnants of the Motorola created Celestri broadband satellite system

with new designs contributed by Boeing and Matra Marconi. The network is now scheduled to begin operation in 2003.

May 19th failure of PanAmSat Galaxy 4 satellite (99W) created short-term havoc for hundreds of satellite networkers include CBS Radio and National Public Radio (NPR). Satellite apparently suffered failure to onboard pointing system that allowed satellite to free wheel on axis. PanAmSat carried $US160 million insurance on the satellite, brought replacement satellite capacity to 99W within five days to replace most of the circuits knocked out. PanAmSat will launch replacement 4R satellite "late in 1999" to same 99W location. An estimated 8 million NPR listeners were instantly affected by the satellite's unexpected behaviour.

Digital TV & Radio

US digital (terrestrial) TV introduction, now scheduled for 1 November, has all participants scrambling to meet deadlines. The consumers are confused, the first level digital TV sets will be priced beyond anything approaching common sense ($US6,000 to $10,000)) and programming will parallel what is already available on analogue. Summary views are diverse but most knowledgeable participants believe it will take 18 months (through April 1999) to sell through to consumers first 50,000 digital TV sets; million (digital) sets per annum will not happen prior to 2002. Pricing by 2002? The set makers "hope" it will have dropped to $US3,000 range. In USA, 95% of all TV sets sold cost consumers below $US1,000. Retailers are being warned about over stocking on first models in industry where price deflation is likely to occur with little warning. Said one manufacturer, "*The deflation is going to be significant and you're talking about a $6,000 investment in a floor model. It is a significant risk for retailers in terms of inventory both in floor models and backroom inventories.*"

Consumer Electronics

Mitsubishi in completing engineering plans for first generation digital TV receivers is electing to provide rear of set connector for addition of HDTV adapter. Firm believes uncertainty of final HDTV format (whether 480i, 480p, 720p, 960i or 1080i) unduly complicates freezing standards for HDTV inside of first generation receivers. The receivers need to go into production shortly to be available prior to November 1st (USA) kick-off of digital terrestrial broadcasting, further delays because of DTV/HDTV formats can not be accepted. Mitsubishi began phasing out production of analogue TV receivers in February, expects existing inventory of direct view (cathode ray tube) analogue sets to be depleted for North American market by early in July. New digital receivers and projection analogue + digital models are replacing the terminated direct view analogue lines.

Toshiba, a significant player in the development of digital TV format technology, has decided not to bring any (terrestrial) DTV products to market this calendar year. Toshiba has developed and shown DTV set top converter/decoder box that will allow existing analogue receivers to receive new DTH transmissions; will hold back product now until mid year 1999. Firm spokesman noted, "*Being first doesn't always make you a leader.*"

Panasonic's approach to DTV is not dissimilar. Add-on DTV decoder that can be plugged into any of several new TV set models will be offered in addition to set-top decoder/format converter. One unusual product not apparently available from others this year: First digital VCR for direct digital recording from terrestrial (and perhaps satellite) broadcasts. Model PV-HD1000 will have retail price tag close to $US1,000 and will do standard analogue recording and playback as well. Panasonic believes the second half of 1999 will see the first real "rush" of DTV products for the consumer marketplace.

Zenith, pioneer US manufacturer of consumer electronics, is reorganising under the protection of a Chapter 11 (court supervised bankruptcy) filing. The firm will restructure and Korean based LG Electronics (LGE) will own 100% of Zenith when the restructuring is complete and become subsidiary of LGE. Zenith plans to cease all manufacturing activity disposing of production plants, concentrate on original engineering and marketing. It was major contributor and is substantial patent holder in DTV development. Those owed money by Zenith will receive long term bonds; 67 million shares of common stock will have the ownership assets wiped out.

Disc output up. Optical media discs (CD-ROM, DVD) grew 10% during 1997 with 6.44 billion discs produced world-wide. Disc production is expected to climb to 7.5 billion per year by 1999. North America produced 40% of discs, Europe 35%. Inventory of produced but not sold (to consumers) DVD discs is surprising element in study. Although DVD discs are new and their numbers small, during 1997 a total of 16 million discs were pressed. Of those, 4 million pressed and 1.5 million sold in Japan; 12 million pressed and 3.5 million sold in USA.

Music industry revenue originating from royalties attached to sale of blank discs sold to consumers for home CD recorders may stop shortly. English publication Home Cinema Choice in July edition explains technique to record music on PC disc rather than CD-R disc. The CD-R discs attract a royalty per disc which was intended to compensate music rights owners for "additional recordings of their works" while PC discs have no such royalty because until now they could not be utilised for recording CD quality music. Report explains CD-R discs retail between $US6 and $7 while PC discs sell for between $US1 and $2. Magazine says cheaper PC disc will

perform flawlessly in home audio CD recorder although the PC discs have a mechanical "flag" that is supposed to cause the CD-R recorder to reject the disc. Technique is as follows: (1) Insert CD-R blank into disc drive of recorder; (2) disc drawer is opened manually, not with electronic push button controls - which bypasses the recorder memory reset function; (3) A PC disc is then substituted for the CD-R original, the door manually closed. At this point the PC disc will record the music in the same manner as the approved AHRA disc. More? Both discs have to be fresh, unused blanks. That's it. The PC disc will then play in normal home or portable CD player as well. UK magazine shows "trick" being performed with two Philips brand home CD-R decks. A deck chosen for this should, like the Philips, have a lip that extends below the disc-tray drawer that will allow manual opening of the tray without need to "jimmy" the drive door. Short term effects of new technique? PC discs recorded with CD-R machines containing music dubs for which no royalty has or will be paid are likely to proliferate world-wide. International Federation of Phonographic Industries blames "*design flaw in Philips CD-R recorders*" for problem, expresses view "*Philips will or should quickly repair this problem.*"

First DVD produced in UK is Irish musical hit Riverdance which has just closed New Zealand run in Auckland. Label name is VCI, DVDs are being pressed in Nimbus, Wales. Warner Home Video has launched in UK using Dolby Digital AC-3 sound format. Typical DVD price there - $US27.

Professional grade DVD player for use in theatre and other installations from California Audio Labs. At $US2,495, model CL-25 CL-20 have twin outputs for 96 kHz digital audio, one for 2 times speed coaxial S/PDIF and fourth for twice speed AES format. Players also have built-in decoder for DVDs encoded in HDCD (high definition compatible digital) format under consideration as possible digital-to-digital link. Models also contain ability to be upgraded to six channel Digital Theatre Systems audio output and RS-232 digital interface for complex home systems. Also included - composite and S-video outputs plus (in CL-25) component and RGB video outputs.

Pioneer has two new portable DVD players. Model PDV-LC01 weighs 2 pounds, measures 6-1/4" square and 1-3/4" thick, operates from AC or rechargeable battery, includes 5.8"/147mm active matrix LCD display screen with 16:9 aspect ratio. Model PDV-01 lacks screen. Both have S-VHS output jacks, virtual surround sound, switchable composite video input/output, and wireless remote control.

Source for 6-channel surround sound (Digital Theatre Systems) product and operation information is www.dtsonline.com.

Consumer DVD players sold in first 3 months of year in North America: 70,500 units with following manufacturer ranking; (1) 28% - Sony, (2) 26% - Toshiba, (3) 12.5% - RCA, (4) 12% - Panasonic, (5) 9% - Pioneer and (6) 5.5% - Magnavox. Related: Hitachi has elected not to introduce DVD players this calendar year, feels it must have a better competitive position in field before bringing out products. Of note: Panasonic in month of April, after quarterly report just cited, had 40.6% market share to easily be best seller of that month.

Sony Playstation and Nintendo N64 consoles continue locked in battle for "survivor rights" in highly competitive home game platform contest. Both had significantly reduced retail pricing of equipment, now Nintendo says it will spend $US125 million to promote the N64 console and new software in period July 1 to December 31. Significant new games including Legend of Zelda are planned before Christmas; $US79.95 colour screen Game Boy will be launched late in November. Sony, in response, says it will "match or exceed" Nintendo promotional budget in same period. Sony Playstation has 67.9% share of market, Nintendo 30.7% with N64 console and related software.

GPS (Global Positioning System) built into Seiko-Epson personal digital assistant at $US760 will work with software to produce colour screen map of where user is located. Overlay maps will pinpoint streets, nearby hotels, restaurants, shopping information. But only in Japan, initially. PDAs will be rented to tourists, include database of more than 6,500 restaurants.

Samsung is latest Korean firm to announce detail on complying with International Monetary Fund (IMF) demand that Korean electronic firms curtail rapid expansion if they wish to have ongoing funding. Samsung will close all noncore businesses, focus now on electronics, finance and service sectors. The goal is to reduce its debt to equity ratio to 2:1 by 1999. Under stricter IMF rules, Samsung has recalculated its profit in 1997 with interesting results. Under "old" accounting, firm earned US$88 million; under "new" accounting, firm now admits it lost $US453 million in 1997.

Cable/Fibre/MMDS/Pay TV

FirstMedia, the Telecom NZ cable arm that suspended new construction last November (see CTD #43, p. 8), has notified their estimated 3,000 cable TV subscribers the system will be shut down at 5PM on July 31st. The announcement corrects earlier Telecom statements the cable service would continue to function for ten years without jeopardy to the cable subscribers. First Media's failure to create a viable cable television network, and its failure to create an effective programme package to attract customers is at the root of the shutdown. Plans for disposal of the First Media network as it now exists are uncertain; at least one group has shown an interest in

taking over a portion of the system serving Howick. Of the 14 cable channels offered by FirstMedia, a Singapore based Chinese language television service (TCS) has been the most popular. The Howick area contains significant Chinese speaking residents. TCS announced in June during a Singapore trade show their plans to expand to between 6 and 9 different programme channels before the end of the first quarter (1999). TCS has been sold by FirstMedia as an optional extra channel ($25) but strangely remains free to air on satellite. Whether FirstMedia or the subcontractor delivering the TCS package to Howick viewers was actually paying for the programming is unknown.

Fight brewing in Australia over cable carriage of terrestrial FTA channels. Broadcasters believe they have legal right to demand payment for their TV signals as delivered by cable, while cable operators disagree. Recent rulings suggest broadcasters and cable should come to "agreement" concerning cable carriage. A memo written within Ministry of Communications (Australia) mid-June seems to establish guidelines for this negotiation. Memo explains a "loophole" in the present copyright law allows cable to carry broadcast TV signals without permission. The broadcasters want payment based upon intellectual property rights. Government funded broadcasters ABC and SBS are expected to sign agreements authorising continued carriage of their services without payment of a copyright fee. Memo also makes point, "*it is in everyone's interest to have cable TV systems carry broadcast signals because up to 70% of the homes in many urban areas do not receive an adequate service from over the air transmitters.*" Memo goes on to suggest that cable firms should not be paying broadcasters for intellectual rights when cable does in fact provide terrestrial TV signals to homes which cannot receive the transmissions except by cable; that cable should be paid for "filling in" the broadcaster's coverage which the broadcasters have neglected to do on their own. Memo has interesting tone - if broadcasters and cable cannot come together on this issue, government will step in to "regulate" practices based upon what is in best interest of the public.

$US48 billion merger joining the world's largest cable TV operator (TCI - former stockholder in Sky NZ) and AT&T (the original "ma bell") has been announced. Opposition to corporate move will be very significant, and if allowed, cable TV and telephoning will become single almost seamless entity for significant number of American homes (15% of total). TCI is also major shareholder in numerous programming firms including HBO movie services as well as holding stock in many outside-of-USA cable and satellite firms (such as PerfecTV Japan).

PNG insight. Aggressive programme acquisition by firm Hitron Pty Ltd represents Indovision and other major programmers on an exclusive basis within PNG, to commercial detriment of independent cable operators and dish dealers. Hitron has experienced problems with Indovision decoders and uncertain licensing status of many programming sources. Indovision's Palapa C2 digital coverage includes PNG, and many PNG viewers have gone directly to Indonesia to obtain decoders and programming packages. Some channels available for Indonesia are not offered to PNG viewers which has led to charges by Indovision that "pirates" will be prosecuted if this procedure persists. It is worth noting the programming is not being stolen, but is being utilised in a country (PNG) where it has not obtained commercial clearances. The Hitron group exerts commercial power, attempting to manage services through commercial exclusivity contracts with many programmers (including some unlikely ones such as China's CCTV). Cable operators in PNG face an additional challenge: An unwilling electrical system supplier not interested in granting pole line attachment rights. Papua New Guinea Electricity Commission cites, "*many kilometres of power lines built in the pioneering days of power supply where safety factors will not allow the attachment of cable TV lines to existing power poles.*" Cable operators to service portions of urban regions have been forced to install their own support poles, often iron or aluminium "water pipe" which has created its own set of safety problems. The Electricity Commission claims, "*the majority of water pipe poles are gradually being pulled over which indicates a significant amount of tension on the poles.*" The power utility also cites concerned with electrical safety ("*there is a definite risk that TV technicians, unfamiliar with power line practices, could come into contact with power cables*"), use of public assets for private purposes ("*Elcoms operations are governed by the Electricity Commission Act which states that the purposes of the Commission are a public purpose, i.e., not a private purpose and it appears that the use of Elcom assets for private purposes would be a contravention of the intentions of the Act.*"), and competing requests for the use of power poles ("*there is the question as to which TV companies would be permitted to install cables. Perhaps we would be required to invite public tenders as required under the Public Finances* ([Management] *Act.*"). None of these problems are unique to PNG, all have been resolved in other segments of the world with the power (and telephone) utility firms collecting monthly or annual fees for pole space rental after agreeing on suitable compensation, safety and liability details.

"**All My Soaps**" is new cable TV channel being tested over USA summer in three markets. ABC soap operas are being taped and shown back same day in Prime time, on following morning and then as week-long composite over weekend. Idea is viewers can miss actual "live" soap broadcast, come back at later time to follow their favourites and if they wish, catch the entire week's worth of any regular ABC soap over a weekend period.

ABC TV stations are not pleased with prospect of competing for audience with their own programming only slightly shifted in time to delayed cable schedule.

Terrestrial Broadcasting

Rupert Murdoch's News Corporation has sold their largest publication property, US TV Guide, for a reported US$2B to TCI owned United Video Satellite Group (UV). The TCI arm operates a satellite and cable world-wide network of TV programming guide services. The deal involves $US800 million in cash plus issue to News Corporation of new stock valued at $US1.2B. When the accounting is completed, News Corp will control 40% of the UV stock, TCI and subsidiary Media will own 44% with voting rights shared at 48% each. TV Guide has a weekly circulation in excess of 13 million copies. The new arrangement is seen as a marriage of traditional print guide and new all electronic guide technologies in preparation for a world-wide revamping of TV scheduling information as a result of the underway swing to digital technologies. News Corp indirectly controls New Zealand's weekly TV Guide as well.

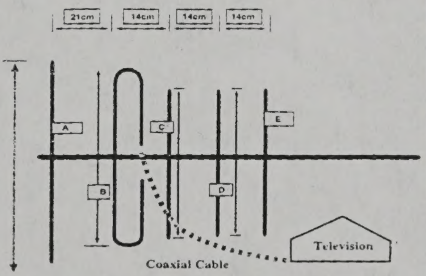
Prime TV, new independent network scheduled to go to air in August from 5 regional (UHF) transmitters, is into heavy construction phase at Albany (Auckland) headquarters and studio facility. Network will have some satellite interconnection capability, through BBC news feeds from PAS-2 and possibly others. There are no indications the network will be interconnected with Australian parent through satellite, initially.

Honiara (Solomon Islands) introduction to television, a result of the current World Cup matches from France, has already been expanded. The service is being fed from TVNZ's Intelsat 180E and consists of early morning (post-midnight) and tape delayed matches that appear around 6pm local time. To fill the balance of the day, Solomon Telekom is receiving the Australian export television service ATVI from Palapa C2 and rebroadcasting it. Local response has been overwhelming according to the Solomon Star newspaper. Rooftop aerials for the temporary 100 watt transmitter installed for the event are being produced locally in record numbers and selling out as far as they are produced. Tropic Aluminium & Glass reported it sold 600 aerials in 2 hours of putting them on sale. Gaylean Electronics reported, "*We have four types of antennas and they out sold out the first day. Our cables have been sold and all of the aerial mounting equipment is gone as well.*" To assist with the shortage, Solomon Telekom published a do-it-yourself set of instructions for the rooftop aerial (see inset here). The service has been funded by the telephone company and local businesses but plans for service after the close of the World Cup remain unsettled.

Network affiliation and compensation by networks to affiliates for advertising originating with network and broadcast by affiliate has been core of somewhat unique North America free to air terrestrial broadcasting since the late 1920s development of commercial radio networks. It is changing and at least one US network (NBC) has proposed to affiliates that network compensation be phased down at rate of 10% per year until affiliates will receive no network compensation by 2010. In lieu of network revenue, stations are being offered various "joint venture" format business plans that will allow networks and affiliate to share in development of commercial business. Until now, network business and affiliate business have been separate and clearly defined mutually exclusive activities. Higher programming costs, greater demand for "off network" material by growing cable and now Internet programming distributors, and most recently rapidly escalating cost of major sporting events are all contributing to the perception that American networks as they have endured for 70+ years are faced with major changes or oblivion. Driving that perception is extensive deployment of multi-programme channel digital broadcasting now ramping up for inaugural telecasts in major US television markets. With the advent of digital, networks and their affiliates are faced not only with increased competition from "third parties" but from within their own ranks. An NBC affiliate in Chicago, for example, has had to compete with one each ABC, CBS and Fox affiliate plus numerous non-affiliated lesser television stations. Plus cable, and now, Internet programme distribution. With digital, it will have to compete with up to six ABC, six CBS, six Fox (etc.) programme channels with its own programme channels. In related decision, CBS network will gain back commercial time for network sale during NFL football matches, creating additional $US850,000 per market for CBS in top-10 marketing regions down to $US40,000 in smaller markets.

SOLOMON TELEKOM

TV ANTENNAE SPECIFICATION



A	Reflector	77cm
B	Element	70 cm
C	Element	63 cm
E	Element	63 cm
D	Director	63 cm

Materials needed
- Coaxial Cable (Electronic Shops)
- Metal (Electronic Shops)

SOLOMON TELEKOM

CABLE & WIRELESS

Helping Solomon Islands to Communicate